

Claims

1. Flow directing insert (15) for a reactor chamber (16) in a reactor, which reactor chamber (16) has a mainly square-shaped cross-section, which chamber (16) has an inlet (18) at one end of the chamber and an outlet (19) at the other end of the chamber and at least one of the walls of the reactor chamber consists of a heat conductive material or a membrane, characterized in that the insert (15) comprises a number of units (1,1¹) arranged in rows, which units together with the walls (20, 21) of the chamber define a channel for a fluid, which channel extends from a first side of the chamber to a second side of the chamber and back again to the first side backwards and forwards a number of times and that the units (1,1¹) are arranged such that the fluid is forced to flow between the units in a serpentine path.
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2. Flow directing insert according to claim 1, characterized in that each unit (1,1¹) has one plane surface (2,2¹) intended to abut one wall of the reactor chamber or the plane surface (2,2¹) of another unit and has an extension that is less than the distance between the opposite walls of the reactor chamber.
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3. Flow directing insert according to claims 1-2, characterized in that each row of units (1,1¹) is separated from the next row of units by a delimiting means (8) extending between and abutting the walls of the reactor chamber in a tightening manner.
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4. Flow directing insert according to claims 1-3, characterized in that the side of the unit opposite to the plane surface has a softly bended shape (5), for example a cylindrical shape.

5. Flow directing insert according to claims 1-4, characterized in that a connection between two adjacent rows of units (1,1) in the reactor chamber is obtained in that there is an opening (9) between one end of a row and a reactor side and also between the next row of units and the same reactor side, such that the fluid may flow from one row to the other in the created empty space.
10. 6. Flow directing insert according to claims 1-5, characterized in that at least two units (1,1¹) in at least two rows one adjacent the other are arranged such that an opening (7) in the cylindrical part of one unit is co-operating with an opening in the delimiting means (8) together with an opening (7) in the cylindrical part of the second unit gives a possibility to create passages between an inlet at one end of the reactor chamber and a flow path anywhere in the reactor chamber or through said chamber.
15. 7. Flow directing insert according to claims 1-7, characterized in that a number of rows of units (1) and delimiting means (8) are produced in one piece.
20. 8. Flow directing insert according to claims 1-7, characterized in that a number of units (1¹) and limits (3,4) are produced in one piece as a column.
25. 9. Flow directing insert according to any of claims 1-8, characterized in that the insert is manufactured in polyetheretherketone (PEEK), carbon, glass or metal.
30. 10. Reactor provided with at least one reactor chamber containing a flow directing insert according to any of the preceding claims.